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EDITORIAL

The Hot Flash Related Daily Interference scale - Cuts offs, minimally important differences, and a revised short version

It is vain to do with more what can be done with fewer

William of Occam

Vasomotor symptoms (VMS), or hot flashes and night sweats, are experienced by most women during their menopausal transition^{1,2}. For many women the menopause and associated symptoms are not a problem; yet 20-40% will experience bothersome VSM^{3,4}. Bothersome VMS are associated with impaired quality of life^{5,6} and are the main reason why women seek help for their menopause⁷. For health professionals, identifying the degree of bother or interference a woman is experiencing is important in order to inform appropriate management of symptoms and monitor effectiveness over time.

One of the first psychometrically developed measures available for clinicians and researchers to assess VSM bother was the Hot Flash Related Daily Interference scale (HFDIS)⁸. Comprising of ten items, the scale measures the women's self-perceived interference on 10 aspects of their life in the past week. An average score on the items is calculated, ranging from 0 to 10, with higher scores indicates a greater degree of interference. The measure is a popular and well used measure throughout the world, and available in 12 languages at the time of this publication.

However, in their paper, Carpenter et al⁹ noted several areas for improvement. These included the dearth of evaluated cut offs, and minimally important differences (MIDs) in scores (the minimum changes in scores perceived as important by patients¹⁰) from which to help inform

clinician response to patients' experience of menopause symptoms. In addition, anecdotal observations by the authors suggest possible redundant items in the HFRDIS as several items are often left empty or given a zero by women, suggesting a shorter measure could be produced. Their study therefore attempted to address these issues and achieve three key aims: 1) to reduce the length of the HFRDIS; 2) develop useful cutoffs for both the original and shorter scales; and 3) identifying minimally important differences (MID) for both the original 10 item and a new shorter scale version.

Using a sample of 899 peri- and post-menopausal women participants in three MsFLASH trial in the US¹¹⁻¹⁵ Carpenter and colleagues⁹ produced a psychometrically valid condensed three-item measure called the Hot Flush Interference scale (HFI), which focuses on hot flush interference with sleep, mood, and concentration. The study also suggests three cut-off points for mild (score 0-3.9), moderate (score 4-6.9), and severe (score 7-10) VSM interference with life on either the original HFRDIS or the HFI scales. Finally, MIDs of 1.66 and 2.34 for the HFRDIS and HFI, respectively, were found to identify clinically appropriate changes to patient perceived symptom interference.

The study makes a clear and valuable contribution to both practice and research. The use of multiple measures and assessments are typical in clinical environments and research. These are only difficult to administer, but place additional burden on respondents, and may result in incomplete data being returned. Partly for these reasons, scale brevity is an important characteristic of any measurement tool and the removal of superfluous items is encouraged^{see 16}. The condensed three-item HFI scale to measure hot flash interference is therefore a highly useful resource that will allow quicker completion and calculation of VSM bother. The cut-offs and

MIDs, now evaluated, also allow for easier comparisons across patients and samples as well as promoting greater consistency in interpretation.

One key strength of the research was the consideration and adoption of both a logical and empirical approach to refining the measure and ensuring validity. This included the use of both experts and appropriate statistical analyses, respectively. Content validity and construct (convergent) validity, for example, were assessed and demonstrated convincing evidence for the condensed scale. Internal reliabilities were also sufficiently confirmed using Cronbach alphas. Another notable strength was the theoretically-driven approach to evaluating cut-off points. As opposed to a data-driven approach, which can be influenced by the specific characteristics of the particular sample, the authors were able develop “common bounds” that can be applied, arguably, to a greater proportion of the population of interest. In addition, the study included a large sample of almost 900 women in the US, which helps provide greater confidence in generalizing the findings and recommendations to the US menopausal population.

Of course, further investigation using the new scale, cut-off points, and MIDs are needed. As the authors point out, using different populations and non-US samples, including translations of the HFI, may produce different results. It is possible that different cut-off points, for example, exist across different populations and should be explored. Existing datasets with the HFRDIS may serve to provide supplementary inspection of the reliability and validity of the new scale, the cut-offs, and MIDs. Exploiting existing data in this way is encouraged, if possible.

Overall, the utility of Carpenter and colleagues⁹ research is clear; the work embodies a pragmatic approach to assessment and provides useful metrics to facilitate easier classification and monitoring of VSM management and symptom change. The outputs offer a time saving and potentially enhanced resource that should be considered by both clinicians and researchers. As an

active researcher in the field of the menopause, this is a welcomed piece of research and an encouraging preliminary study that opens the way for further interesting studies to help observe and confirm the utility of this work over time.

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